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8 IN THE UNITED STATES DISTRICT COURT
9 FOR THE NORTHERN DISTRICT OF CALIFORNIA
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11 ULTRATECH, INC.,

No. C 03-03235 CRB

12 Plaintiff,

**MEMORANDUM AND ORDER RE:
INVALIDITY DEFENSES**

13 v.

14 TAMARACK SCIENTIFIC CO.,

15 Defendant.
16 _____/

17 Now pending before the Court is (1) defendant Tamarack's motion for summary
18 judgment that claims 1, 2, 4 and 5 of the '813 are invalid based on the "on sale bar" of 35
19 U.S.C. section 102(b); (2) plaintiff Ultratech's motion for summary judgment on all of
20 Tamarack's anticipation invalidity defenses, including the "on sale bar" defense; (3)
21 Tamarack's motion for summary judgment of invalidity of claims 1, 2, 4, 5, 8 and 9 based on
22 obviousness; and (4) Ultratech's motion for summary judgment of non-obviousness.

23 **SUMMARY JUDGMENT STANDARD**

24 A principle purpose of the summary judgment procedure is to isolate and dispose of
25 factually unsupported claims. See Celotex Corp. v. Catrett, 477 U.S. 317, 323-24 (1986). A
26 party moving for summary judgment that does not have the ultimate burden of persuasion at
27 trial (in this case, plaintiff Ultratech) has the initial burden of producing evidence negating an
28 essential element of the non-moving party's claims *or* showing that the non-moving party

1 does not have enough evidence of an essential element to carry its ultimate burden of
 2 persuasion at trial. See Nissan Fire & Marine Ins. Co. v. Fritz Cos., 210 F.3d 1099, 1102
 3 (9th Cir. 2000). Where the party moving for summary judgment would bear the burden of
 4 proof at trial (here, defendant Tamarack), it has the initial burden of producing evidence
 5 which would entitle it to a directed verdict if the evidence went uncontroverted at trial. See
 6 C.A.R. Transp. Brokerage Co., Inc. v. Darden, 213 F.3d 474, 480 (9th Cir. 2000).

7 If the moving party does not satisfy its initial burden, the non-moving party has no
 8 obligation to produce anything and summary judgment must be denied. If, on the other hand,
 9 the moving party has satisfied its initial burden of production, then the non-moving party
 10 may not rest upon mere allegations or denials of the adverse party's evidence, but instead
 11 must produce admissible evidence that shows there is a genuine issue of material fact for
 12 trial. See Nissan Fire & Marine Ins. Co., 210 F.3d at 1102. A genuine issue of fact is one
 13 that could reasonably be resolved in favor of either party. A dispute is "material" only if it
 14 could affect the outcome of the suit under the governing law. See Anderson v. Liberty
 15 Lobby, Inc., 477 U.S. 242, 248-49 (1986).

16 DISCUSSION

17 The primary issue in this litigation is the meaning of the following limitation found in
 18 independent claims 1 of the '813: an exposure and alignment system comprising, among
 19 other things,

20 a pattern recognition system to recognize said first key and target patterns in
 21 said first alignment image, wherein said first key and target patterns to be
 22 recognized are *arbitrary and user selectable*, wherein said first key and target
 patterns are learned by said pattern recognition system and stored in said
 memory;

23 Col. 12, ll.18-23 (emphasis added). The Court has previously construed "arbitrary" to mean
 24 "any convenient pattern, including any number of known alignment keys," and "user
 25 selectable" to mean "being capable of being selected by the user." In so construing these
 26 terms, the Court specifically rejected Ultratech's more narrow construction of "user
 27 selectable" as meaning selected by the user at the time of operation of the exposure and
 28 alignment system. The Court also rejected Ultratech's later assertion that this limitation

1 means that the pattern recognition system can recognize “any pattern, anytime, and without a
2 programmer and without any rewriting or recompiling to incorporate new targets” on the
3 ground that such a narrow interpretation is not consistent with the claim language.

4 In connection with the parties’ invalidity summary judgment motions, Ultratech,
5 again, urges the Court to adopt a construction that, in the Court’s view, is inconsistent with
6 the plain language of the claims, the specification, and the prosecution history. Through its
7 expert’s own reading of the prosecution history, it claims that the innovation of the ‘813 was
8 not, as the Court previously ruled, the use of a non-hardwired pattern recognition system to
9 recognize key and target patterns for alignment, but rather the exposure and alignment
10 system user’s use of arbitrary and user selectable key and target patterns; in other words, the
11 innovation is not the invention itself, but is instead how the invention is used. See Oldham
12 Decl. at ¶ 34 (“it is the teaching in the ‘813 Patent of a particular way to use ‘a commercially
13 available pattern recognition system, including a command interface, such as a Cognex 1500
14 system . . . that led to the issuance of the ‘813 patent.”). Ultratech also claims that “arbitrary”
15 means that the pattern recognition system can recognize the fiducial “at any location,” and
16 that “learned by said pattern recognition system” means “learning that does not require
17 development of a new alignment algorithm and reprogramming.”

18 The Court disagrees for all the reasons stated in its previous orders. The prosecution
19 history unambiguously demonstrates that Ultratech added the “arbitrary” and “learn” and
20 “store” limitations to distinguish its invention from Kurosawa et al, Patent No. 5,112,133,
21 which the Examiner had found anticipated all of Ultratech’s proposed claims. Kirsch
22 6/24/04 Decl. Exh. 4 at 58-59. Ultratech explained that Kurosawa was a “hardwired” system,
23 that is, it had pre-determined, hardwired patterns specific to the system. Ultratech added the
24 term “arbitrary” to demonstrate that its invention, which used pattern recognition software,
25 such as Cognex, was distinguishable because it is not a hardwired system limited to patterns
26 specific to the system. See, e.g., Kirsch 6/24/04 Decl. Exh. 5 at 68 (“In contrast [to
27 Kurosawa], in the present invention, the pattern to be recognized is selectable by the user and
28 is not hardwired into the system.”).

1 The Examiner responded that “Kurosawa et al. do not explicitly teach that the pattern
2 to be recognized is arbitrary and user selectable,” but that such an invention was obvious in
3 light of Kurosawa et al. and Sase. Kirsch 6/24/04 Decl. Exh. 6 at 73. Ultratech amended its
4 claims to recite that the first pattern is “learned by the pattern recognition system and stored
5 in memory.” Ultratech again distinguished the prior art by emphasizing its invention’s use of
6 a non-hardwired pattern recognition system:

7 In contrast to the cited art, the present invention uses a pattern recognition
8 system to perform the alignment. . . . [T]he pattern recognition system
9 described in the present invention is well-known in the art to have the ability to
10 learn and recognize any arbitrary pattern. . . . [T]he system of *Kurosawa, et al.*
11 would not be considered a pattern recognition system, nor would it be
12 considered capable of recognizing arbitrary and user selectable patterns. While
13 the system designer may have some flexibility in the types of patterns a system
14 will employ, the ultimate end user cannot simply use any arbitrary pattern. For
15 example, in the present invention, alignment marks required to be placed on a
16 substrate and reticle for other systems, a portion of the device layer, or any
17 feature, may be used as an alignment key or target. While applicant believes
18 that the claimed system comprising a pattern recognition system is patentably
19 distinct from the system described in *Kurosawa, et al.*, Applicant has amended
20 all independent claims to clarify the distinction between the claimed invention
21 and *Kurosawa, et al.*, by claiming that the first pattern is learned by the pattern
22 recognition system and stored in memory. Clearly, while *Kurosawa, et al.* may
23 have some flexibility in the initial choice of target which may be hardwired into
24 the system, there is no teaching or suggestion that any such pattern can be
25 learned and stored in a memory.

26 Kirsch 6/24/04 Decl. Exh. 7 at 80-81.

27 The Examiner was unpersuaded and rejected Ultratech’s claims as obvious in light of
28 a new prior art reference, Linger. Kirsch 6/24/04 Decl. Exh. 9 at 88. Ultratech filed an
Amendment After Final Rejection, cancelling certain claims and amending others. The
amendment did not modify the technical content of the claims. Kirsch 6/24/04 Decl. Exh. 13
at 116. Ultratech again distinguished its invention from the prior art on the ground that the
key and target patterns are arbitrary and user selectable and that “one of the elements in the
apparatus of the present invention is a pattern recognition system.” Kirsch 6/24/04 Decl.
Exh. 13 at 116 (emphasis in original). Ultratech distinguished Linger on various grounds,
among them that it is for ceramic substrates, it does not discuss “target” and “key” alignment,
and there is no mention of pattern recognition.

1 Ultratech's perseverance paid off, and the Examiner allowed the claims. The
2 Examiner reasoned that the prior art does not anticipate or suggest the invention.
3 "Specifically, the claims variously recite the selection and use of a 'arbitrary' patterns for the
4 alignment. Applicant's arguments as to the meaning and definition of this limitation, as
5 supported by the specification, are found to distinguish over the prior art when taken in
6 combination with the other limitations of the claims." Kirsch 6/24/04 Decl., Exh. 16 at 141.

7 Ultratech's assertion that the Examiner's reasoning means that the claims require
8 "learning that does not require development of a new alignment algorithm and
9 reprogramming" is unpersuasive. The Examiner allowed the claims because he was finally
10 convinced by Ultratech's use of "arbitrary" to distinguish the '813 from the hardwired prior
11 art of which the Examiner was aware. Ultratech never stated that "arbitrary" meant the
12 pattern recognition system had to be able to recognize an arbitrary pattern without
13 reprogramming. Ultratech is, again, urging the Court to adopt a claim construction that the
14 Court has specifically rejected. Nor is there anything in the language of the claims, the
15 specification, or the prosecution history which would alert one skilled in the art that the
16 claims require the pattern recognition system to be able to recognize patterns *at any location*.

17 In sum, the claims of the '813 cannot reasonably be read *as being limited* to exposure
18 and alignment systems utilizing pattern recognition systems which learn and store key and
19 target patterns at any location without reprogramming. While the claims of the '813 might
20 read on such a system, the unambiguous language of the '813, consistent with the
21 specification and prosecution history, encompasses exposure and alignment systems which
22 utilize pattern recognition systems to learn and store in memory any key and target patterns
23 selected by the user, even if such selection, learning, and storing occurs with the aid of an
24 additional console, or a programmer, or something "outside of the machine."

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With this claim construction in mind, the Court turns to the parties' summary judgment motions.¹

I. Anticipation

A. Ultratech's motion

Ultratech moves for summary judgment on all of Tamarack's anticipation invalidity defenses set forth in its Final Invalidity Contentions. Tamarack replies that the only anticipation defenses it is still pursuing are those set forth in its motion for summary judgment; namely, offers for sale Tamarack made to IBM in 1990 and Planar in 1991. It also notes that the Court granted Tamarack's motion for summary judgment of non-infringement with respect to claims 11-15 of the '813 so its anticipation defenses as to those claims are moot.

Accordingly, other than the anticipation defense based on the 1990 IBM and 1991 Planar offers for sale, and the anticipation defense to claims 11-15, Ultratech's motion for summary judgment on Tamarack's anticipation defenses is granted as unopposed. It is appropriate to grant summary judgment since Tamarack included the defenses in its Final Invalidity Contentions and never formally amended those contentions. The Court will address the on-sale bar defense below.

B. Tamarack's motion

Under 35 U.S.C. section 102(b), "[a] person shall be entitled to a patent unless . . . the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." "The date exactly one year prior to the date of application for the patent is known as the critical date." Scaltech, Inc. v. Retec/Tetra LLC, 269 F.3d 1321, 1327 (Fed. Cir. 2001). The on-sale bar applies when the invention is the subject of a commercial offer for sale, and is ready for patenting before the critical date." Netscape Communications Corp. v. Konrad, 295 F.3d 1315, 1323 (9th Cir. 2002) (citing

¹At oral argument Ultratech suggested that the parties' experts' different interpretations of the claims means there is a dispute of fact for trial. Claim construction is a question of law for the Court. See Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). Thus, the experts' disagreement as to the meaning of the claims does not create an issue for trial.

1 Pfaff v. Wells Electronics, Inc., 525 U.S. 55, 67 (1998)). “A determination that a claim is
 2 invalid as being anticipated requires factual findings that each and every limitation is found
 3 either expressly or inherently in the device or process that was sold.” Minton v. National
 4 Ass’n of Securities Dealers, 336 F.3d 1373, 1376 (Fed. Cir. 2003) (internal quotation marks
 5 and citation omitted).

6 “Because ‘a patent is presumed to be valid, 35 U.S.C. § 282, and this presumption can
 7 only be overcome by clear and convincing evidence of facts to the contrary,’ the facts
 8 underlying a conclusion that a claim is unpatentable in light of a sale must be proven with
 9 clear and convincing evidence.” Id. (quoting Dana Corp. v. Am. Axle & Mfg., Inc., 279 F.3d
 10 1372, 1375 (Fed. Cir. 2002)) (citation omitted).

11 The parties agree that the critical date is January 14, 1992. Tamarack argues that
 12 claims 1, 2, 4 and 5 are invalid under the “on sale bar” because on September 18, 1990 it
 13 offered to sell IBM the same device that is claimed in claims 1, 2, 4 and 5 of the ‘813. It
 14 contends that the same device was again offered for sale in 1991 to a different entity, Planar
 15 Systems Inc. According to Tamarack, Planar accepted Tamarack’s offer for sale in 1992 and
 16 the device became known as the Tamarack Model 300LPGX.

17 **1. The IBM Offer**

18 **a. Commercial offer for sale**

19 The first step in the Court’s analysis is to determine whether Tamarack’s September
 20 18, 2001 offer for sale to IBM is, as a matter of law, “truly a ‘sale’ within the meaning of 35
 21 U.S.C. § 102(b), a question of law based on underlying facts.” Minton, 336 F.3d at 1376.
 22 The “existence of an offer for sale should be analyzed under the law of contracts as generally
 23 understood.” Group One, Ltd. v. Hallmark Cards, Inc., 254 F.3d 1041, 1047 (Fed. Cir.
 24 2001). “As a general proposition, [courts] will look to the Uniform Commercial Code
 25 (‘UCC’) to define whether . . . a communication or series of communications rises to the
 26 level of a commercial offer for sale.” Id..

27 Tamarack has submitted clear and convincing evidence that on September 18, 1990--
 28 prior to the critical date--it made a commercial offer to sell a device to IBM. First, it is

undisputed that in 1990 IBM issued a Request for Quotation (“RFQ”) for an exposure and alignment system utilizing Cognex pattern recognition for substrate alignment. Second, it is also undisputed that Tamarack responded to IBM’s RFQ on September 18, 1990 with an offer to sell IBM a device that met its specifications. The offer included a detailed description of the device to be sold, a price with a payment schedule, and a delivery date (15 months after receipt of order). Moreover, IBM testified that in its industry a response to a RFQ is considered a binding offer for sale. This evidence satisfies Tamarack’s initial burden of proving a commercial offer for sale. See Linear Technology Corp. v. Micrel, Inc., 275 F.3d 1040, 1050 (Fed. Cir. 2001) (“An offer is the manifestation of a willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it”) (quoting Restatement (Second) of Contracts § 24 (1981)).

Ultratech does not dispute that Tamarack’s September 18, 1990 response to IBM’s RFQ was a commercial offer for sale under general contract principles; instead, it argues that the on-sale bar does not apply to sales of the claimed invention by third parties, that is, by parties other than the patent applicant, at least when those sales are not “public.”

Under the Federal Circuit’s precedents, “it is of no consequence [to the on-sale bar] that the sale was made by a third party, not the inventor.” Zacharin v. United States, 213 F.3d 1366, 1370 (Fed. Cir. 2000); see also In Re Caveney, 761 F.2d 671, 675 (Fed. Cir. 1985) (stating that offers for sale “by one person of a claimed invention will bar another party from obtaining a patent if the sale or offer to sell is made over a year before the latter’s filing date”). As the Federal Circuit has noted, sales to a third party are covered by the text of section 102(b): a “person shall be entitled to a patent unless . . . the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States.” Special Devices, Inc. v. OEA, Inc., 270 F.3d 1353, 1355 (Fed. Cir. 2001) (quoting 35 U.S.C. § 102(b)). “By phrasing the statutory bar in the passive voice, Congress indicated that it does not matter who places the invention ‘on sale’; it only matters that someone--the inventor, supplier or other third party--placed it on sale.” Id.

1 The Federal Circuit has held, however, that there is an exception to this general rule
 2 “where a patented *method* is kept secret and remains secret after a sale of the unpatented
 3 product of the method.” In Re Caveney, 761 F.2d at 675 (emphasis added). “Such a sale
 4 prior to the critical date is a bar if engaged in by the patentee or patent applicant, but not if
 5 engaged in by another.” Id. The Caveney court cited W.L. Gore & Associates, Inc. v.
 6 Garlock, Inc., 721 F.2d 1540, 1550 (Fed. Cir. 1983) and D.L. Auld Co. v. Chroma Graphics
 7 Corp., 714 F.2d 1144, 1147-48 (Fed. Cir. 1983) as support for the exception. In W.L. Gore,
 8 for example, the court held that a third party’s sale of a product that was made by a later-
 9 patented *process* did not trigger the on-sale bar because the process itself was kept secret
 10 from the purchaser. 721 F.2d at 1549 (“There is no evidence that a viewer of the machine
 11 could thereby learn anything of which process, among all possible processes, the machine is
 12 being used to practice.”). “There had been no sale of the process *per se*, and the process was
 13 not discoverable from the product.” J.A. LaPorte, Inc. v. Norfolk Dredging Co., 787 F.2d
 14 1577, 1582 (Fed. Cir. 1986) (explaining W.L. Gore). The Caveney court held that the third
 15 party sale at issue in that case did not fall within the W.L. Gore exception because the
 16 claimed invention was disclosed to the purchaser. 761 F.2d at 671.

17 Ultratech seeks to extend the narrow exception set forth W.L. Gore and Caveney to
 18 third party sales of products that embody a later-patented invention if the sales are subject to
 19 a confidentiality agreement. The Federal Circuit expressly rejected a similar argument in
 20 J.A. LaPorte. The patentee argued that the “‘secret’ commercialization of an invention by a
 21 third party creates no bar.” 787 F.2d at 1582. The Federal Circuit disagreed: “the question is
 22 not whether the sale, even a third party sale, ‘discloses’ the invention at the time of the sale,
 23 but whether the sale relates to a device that *embodies* the invention.” Id. at 1583. The court
 24 noted further that the party to whom the offer of sale was made was a member of the general
 25 public. Id. Here, IBM is similarly a member of the general public.

26 In sum, the caselaw does not support Ultratech’s “secret” offer for sale argument.
 27 Ultratech’s reliance on page 11, lines 14-18 of the Court’s October 12, 2004 Memorandum
 28

1 and Order is also misplaced. The Court, and the case cited, were discussing the “public use”
2 bar, not the “on sale bar.”²

3 As Ultratech has not produced any evidence that creates a genuine dispute as to
4 whether Tamarack’s September 18, 1990 response to IBM’s RFQ was a commercial offer for
5 sale, Tamarack has proved this requirement of its on-sale bar defense by clear and
6 convincing evidence as a matter of law.

7 **b. Ready for patenting**

8 The second requirement is that the product that was offered for sale be “ready for
9 patenting.” Pfaff, 525 U.S. at 67; Space Systems/Loral, Inc. v. Lockheed Martin Corp., 271
10 F.3d 1076, 1079 (Fed. Cir. 2001). There are two ways a party asserting invalidity may show
11 that an invention is ready for patenting: “if it has been actually reduced to practice, or if
12 ‘prior to the critical date the inventor had prepared drawings or other descriptions of the
13 invention that were sufficiently specific to enable a person skilled in the art to practice the
14 invention.’” Space Systems/Loral, Inc., 271 F.3d at 1079 (quoting Pfaff, 525 U.S. at 67-68).
15 The evidence must be “clear that no aspect of the invention was developed after the critical
16 date.” Pfaff, 525 U.S. at 68 n.14.

17 Tamarack makes two arguments as to why the product it offered to sell was ready for
18 patenting. First, its 31-page September 18, 1990 response, in conjunction with IBM’s RFQ,
19 were sufficiently detailed to permit one skilled in the art to practice the invention. Tamarack
20 emphasizes that it had provided IBM with a set price and a delivery schedule, along with
21 detailed drawings of the device. Second, it contends that the device it offered to sell IBM
22 was, in fact, reduced to practice prior to the critical date. See Robotic Vision Sys. v. View
23 Eng’g., 112 F.3d 1163, 1168 (Fed. Cir. 1997) (“Completion of the invention prior to the

24
25 ²The Court recognizes that the Caveney court, in a footnote, suggested that the on-sale
26 bar does not apply to third-party sales of a patented invention and that instead only the “public
27 use” provision of section 102(b) applies. 761 F.2d at 675 n.5. This statement, read literally and
28 out of context, is inconsistent with the text of the case in which the court specifically held that
“sales or offers by one person of a claimed invention will bar another party from obtaining a
patent if the sale or offer to sell is made over a year before the latter’s filing date,” id. at 675, and
went on to analyze the on-sale bar in the context of a third party offer for sale. Id. at 67-77. The
court, therefore, must have meant its statement to apply only in the case of the process exception
to the general rule as to third-party sales.

critical date, pursuant to an offer to sell that invention, would validate what had been theretofore an inchoate, but not yet established, bar. It would validate it, however, as of the date of that completion, not the date of the original bar.”). As evidence that it was reduced to practice, it offers the declaration of Ronald Sheets, Tamarack’s Chief Executive Officer. He attests that the device Tamarack offered to sell IBM was “manufactured in 1991.”

As to the “reduced to practice” argument, Tamarack’s evidence is insufficient to meet its burden by clear and convincing evidence. It’s C.E.O.’s unadorned statement, lacking any details or corroboration, cannot, as a matter of law, constitute clear and convincing evidence of invalidity. See Lacks Indus., Inc. v. McKechnie Vehicle Components USA, Inc., 322 F.3d 1335, 1350 (Fed. Cir. 2003).

IBM’s RFQ, together with Tamarack’s response, and the undisputed evidence that IBM had previously purchased off-axis alignment systems from Tamarack utilizing Cognex pattern recognition, are sufficient to show that the device was ready for patenting. Ultratech does not point to anything that would still need to be “developed” (other than functionality that is *not* required by the ‘813) in order for the product described in Tamarack’s proposal to be reduced to practice; instead, it claims Tamarack’s evidence is insufficient because it does not offer expert testimony on this issue. Ultratech, however, does not point to any case that requires expert testimony, especially given the details, including price and delivery dates, provided by Tamarack.

c. Comparison of claims to the device offered for sale

The parties’ primary dispute is whether the product Tamarack offered to sell IBM is the invention of claims 1, 2, 4 and 5 of the ‘813. At Ultratech’s urging, the Court previously found that Tamarack’s Models 303 and 336 infringe claim 1 of the ‘813. Tamarack offers evidence that the device it offered to sell IBM is the “grandparent” of Models 303 and 336 and included the exact same features that render the Models 303 and 336 infringing; therefore, argues Tamarack, the September 1990 device is invalidating. See Vanmoor v. Wal-Mart Stores, Inc., 201 F.3d 1363, 1366 (Fed. Cir. 2000). Tamarack has also offered evidence that the device it offered to sell IBM itself meets all the elements of claim 1: it

1 identifies the specific portions of its September 18 proposal that satisfy each element. This
2 clear and convincing evidence is sufficient to satisfy Tamarack's initial burden.

3 Ultratech disputes that the device meets the limitation that has been the primary focus
4 of the parties' litigation; namely, "a pattern recognition system . . . wherein first key and
5 target patterns to be recognized are arbitrary and user selectable, wherein said first key and
6 target patterns are learned by said pattern recognition system and stored in said memory."

7 It is undisputed that a Cognex pattern recognition system, when incorporated into an
8 exposure and alignment system, such as that described in Tamarack's proposal, has the
9 ability to learn, store, and recognize arbitrary and user selectable patterns as the Court has
10 construed those terms. As the '813 patent applicant stated to the Patent and Trademark
11 Office:

12 [A] pattern recognition system such as that described, for example, [Cognex],
13 is capable of learning and storing any arbitrary pattern, which may be in the
14 shape of any letter of the Roman alphabet, the vast majority of Chinese
15 characters, shapes with an without vertical and horizontal edges, free-form
16 shapes, a pair of broken hearts . . . a circle, a square, or another arbitrary shapes
17 such as a portion of a circuit, etc.

18 Kirsch 6/24/04 Decl., Exh. 14 ¶ 12. Ultratech's litigation expert agrees: "The fact that such a
19 commercially available system is capable of learning and using arbitrary patterns is of course
20 the very point for choosing the Cognex system." Oldham April 16, 2004 Decl. ¶ 5; see also
21 Walker Decl., Exh. A (Cognex Deposition) at 101-103, 149-154, 164-166 (testifying that
22 Cognex could learn any pattern up to 64,000 pixels in area and that such patterns could be
23 stored in various forms of memory).

24 In light of this undisputed evidence, Ultratech does not contend that the device
25 Tamarack offered to sell could not, as a matter of fact, meet the limitation; instead, it argues
26 that IBM's testimony establishes that IBM's RFQ did not request a device that could
27 recognize "arbitrary" patterns and therefore the device Tamarack offered to sell does not
28 meet the "arbitrary" limitation of claim 1 of the '813. Ultratech also offers evidence that in
1990 one could have built an exposure and alignment system that incorporated a Cognex
pattern recognition system that only recognized predefined alignment marks, rather than user

1 selectable marks, by not utilizing all the functionality of a Cognex pattern recognition
2 system.

3 IBM's RFQ directed that the alignment system "be designed flexibly, as the alignment
4 fiducials may take various forms in the future. Unless there are technical reasons to do
5 otherwise IBM would prefer that the alignment system use a COGNEX Corporation vision
6 system for all recognition tasks." Kirsch 6/24/04 Dec., Ex. 40 at 197. IBM testified that this
7 meant that it required a system that could be trained on a new fiducial at some time the
8 future. Walker Decl. Ex. B (IBM Deposition) at 372-76. Ultratech agrees. See Ultratech
9 July 16, 2004 Motion for Partial Summary Judgment on Defendant's Invalidity Defenses at
10 10 ("Flexible, as it was contemplated in the IBM RFQ meant a system that could have the
11 underlying computer code adjusted to incorporate new targets designated by the user.")
12 (emphasis omitted). The possibility that an exposure and alignment system utilizing a
13 Cognex pattern recognition system could be configured so as to recognize only predefined
14 and unmodifiable alignment marks is therefore irrelevant because IBM's RFQ required a
15 system that could be trained on a new fiducial. Thus, when Tamarack proposed
16 incorporating Cognex, as requested by IBM, it had to be proposing to use it such that it could
17 learn new, unspecified targets in the future; in other words, it was proposing to incorporate
18 Cognex into an exposure and alignment system so that the key and target patterns would be
19 "arbitrary" and "user selectable" as those terms have been construed by the Court.

20 The IBM testimony cited by Ultratech does not dispute this conclusion. While IBM
21 may not have contemplated that it would use "any convenient pattern," and while it did not
22 specifically request any particular Cognex software, it did request a system that would be
23 able to recognize new fiducials that were not specified prior to the manufacture of the
24 exposure and alignment system. The undisputed evidence establishes that an exposure and
25 alignment system that incorporates Cognex pattern recognition software to have such
26 functionality would have been able to recognize any arbitrary pattern. IBM's purported lack
27 of knowledge of (or intent to use) the system's ability to recognize *any* pattern is immaterial.
28 See Tandem Computers, Inc. v. Yuter, 1992 WL 602834 (N.D. Cal. June 24, 1992) ("It is not

1 required that the purchaser have actual knowledge of the invention to invoke the on-sale
 2 bar.”), aff’d, 5 F.3d 1502 (Fed. Cir. 1993). Again, to the extent Ultratech is arguing that the
 3 ‘813 is limited to exposure and alignment systems in which the user actually selects an
 4 “arbitrary” pattern “on site” or without any further programming, the Court rejects such
 5 construction. In sum, the Court concludes that the device Tamarack offered to sell IBM in
 6 1990 meets all of the limitations of claims 1, 2, 4 and 5 of the ‘813 as a matter of law.

7 **d. Other Arguments**

8 Ultratech also argues that Tamarack’s September 18, 1990 response was
 9 “experimental” and therefore not a commercial offer for sale within the meaning of section
 10 102(b). It emphasizes that Tamarack’s proposal included both on-axis (through-the-lens) and
 11 off-axis projection, and that Tamarack’s C.E.O. testified that Tamarack included both
 12 because it “did not know which way would be the best.” This evidence falls far short of
 13 creating a genuine dispute as to whether the proposed sale was experimental rather than a
 14 commercial offer for sale. Compare with EZ Dock v. Schafer Systems, Inc., 276 F.3d 1347,
 15 1352-53 (Fed. Cir. 2002) (concluding that evidence that inventors visited the product sold (a
 16 dock) on several occasions after the sale, made repairs for free, provided free installation and
 17 equipment, had not previously offered any docks for sale, and had not created any marketing
 18 materials created a genuine dispute as to whether use was experimental and therefore not a
 19 commercial offer for sale).

20 **2. The Planar Offer**

21 **a. Commercial offer for sale**

22 Tamarack offers the declaration of Carl Laakso, the former Manager of Process
 23 Development Research and Development for Planar Systems, Inc. Laakso testifies that in
 24 1991 Planar wanted to purchase an exposure and alignment system that contained a pattern
 25 recognition system to recognize fiducials and had the ability to recognize different patterns.
 26 That summer Laakso met with Ronald Sheets, Tamarack’s C.E.O., to discuss Tamarack’s
 27 ability to provide Planar with such a system. Laasko attests that at some point in 1991,
 28 Tamarack agreed to provide Planar with a Tamarack Model 300 exposure system at a price

1 certain. Planar actually ordered a Model 300 from Tamarack in August 1992 (after the
2 critical date). This evidence, Tamarack argues, demonstrates that the Tamarack Model 300
3 was commercially offered for sale before the critical date.

4 Ultratech responds with documentary evidence that Planar did not even send
5 Tamarack the specification for what it needed until February 1992, after the critical date, and
6 Tamarack did not respond to the specification until May and then July 1992. As set forth
7 above, the order was placed in August 1992. It also submits evidence that Planar did not
8 have the funding to purchase the system until after the critical date and that in February 1992
9 Planar asked Tamarack to submit a quote based upon Planar's specification.

10 The on-sale bar applies if the invention was *offered* for sale; there does not have to be
11 an agreement to purchase the system. See 35 U.S.C. § 102(b); Pfaff, 525 U.S. at 55 (holding
12 that for the "on sale bar" to apply, a product encompassing the invention must be "the subject
13 of a commercial *offer* for sale") (emphasis added). The inquiry is whether a reasonable trier
14 of fact *must* find by clear and convincing evidence that Tamarack offered an exposure and
15 alignment system utilizing Cognex for sale to Planar in 1991. There does appear to be a
16 dispute about whether Tamarack offered to sell its system for a specific price. Tamarack and
17 Planar state that they came to an agreement on price in 1991, but in February 1992, Planar
18 asked Tamarack for a price quotation. Tamarack also claims that the 1991 price agreement
19 was based on Planar having put aside a certain amount of money to fund the system;
20 however, in February 1992 Planar informed Tamarack that it was "getting closer to having
21 funding" for the system. While Planar's February 1992 statements may not be inconsistent
22 with the evidence as to a 1991 offer with respect to price, they can also be interpreted as
23 being inconsistent with and thus disputing those statements. Accordingly, a trier of fact must
24 resolve whether in 1991 Tamarack offered to sell Planar the system that became Tamarack's
25 Model 300.

26 **b. Ready for patenting**

27 Ultratech argues that even if Tamarack offered to sell Planar something prior to the
28 critical date, the evidence is insufficient to support a finding that the device, whatever it was,

1 was ready for patenting. It argues that prior to the critical date Tamarack and Planar had not
 2 even decided if the system would be off-axis or through-the-lens (as required by the '813)
 3 and that the design of the Model 300 eventually sold to Planar was not completed until July
 4 1992.

5 Ultratech's argument ignores Tamarack's evidence as to what it offered to sell to IBM
 6 in 1990. While the Model 300 differed in some respects, it did not differ in any material way
 7 from what Tamarack offered to sell IBM. Ultratech also misstates the evidence as to whether
 8 the system would be "off-axis" or "through-the-lens." The deposition transcript cited by
 9 Ultratech demonstrates that the system would be *both* "off-axis" *and* "through-the-lens," the
 10 same as the system it offered to sell to IBM. Again, as with the IBM, the evidence is
 11 insufficient to support a finding that any offer for sale to Planar was merely "experimental."
 12 The Court therefore concludes that the device Planar and Tamarack discussed in 1991 was,
 13 as a matter of law, ready for patenting.

14 **c. Comparison of claims to device at issue**

15 Tamarack has also proven by clear and convincing evidence that the device it
 16 discussed with Planar in 1991 met all of the limitations of claim 1 of the '813 for the reasons
 17 stated with respect to the offer for sale to IBM.

18 **II. Obviousness**

19 Tamarack also moves for summary judgment that claims 1, 2, 4, 5, 8 and 9 of the '813
 20 are invalid as obvious. See 35 U.S.C. § 103 (a) ("A patent may not be obtained though the
 21 invention is not identically disclosed or described as set forth in section 102 of this title, if
 22 the differences between the subject matter sought to be patented and the prior art are such
 23 that the subject matter as a whole would have been obvious at the time the invention was
 24 made to a person having ordinary skill in the art to which said subject matter pertains").
 25 Whether an invention would have been obvious is a legal conclusion based on underlying
 26 findings of fact. See In re Kotzab, 217 F.3d 1365, 1367 (Fed. Cir. 2000). To determine
 27 whether an invention is invalid as obvious, the Court looks to (1) the scope and content of the
 28

1 prior art, (2) differences between the prior art and the claims at issue, and (3) the level of
 2 ordinary skill in the relevant art. See Graham v. John Deere Co., 383 U.S. 1, 17 (1966).

3 A finding of obviousness may be based on a combination of prior art; however,
 4 “[b]efore a conclusion of obviousness may be made based on a combination of references,
 5 there must have been a reason, suggestion, or motivation to lead an inventor to combine
 6 those references.” Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573
 7 (Fed. Cir. 1996). “Such a suggestion may come from the references themselves. It may come
 8 from knowledge of those skilled in the art that certain references, or disclosures in the
 9 references, are known to be of special interest or importance in the particular field. It may
 10 also come from the nature of a problem to be solved, leading inventors to look to references
 11 relating to possible solutions to that problem.” Id. (internal citations omitted).

12 As a preliminary matter, the Court’s conclusion that the device Tamarack offered to
 13 sell IBM in 1990 anticipates claim 1 (and certain dependent claims) of the ‘813 as a matter of
 14 law means that the relevant claims of the ‘813 are also invalid for obviousness as
 15 “anticipation is the epitome of obviousness.” See Connell v. Sears, Roebuck & Co., 722
 16 F.2d 1542, 1548 (Fed. Cir. 1983) (internal quotation marks and citation omitted). As an
 17 appellate court may conclude that the Court erred in its anticipation ruling, and because there
 18 are additional claims that Tamarack argues are invalid as obvious (but not anticipated), the
 19 Court will address the parties’ obviousness motions.

20 Tamarack argues that all the claims of the ‘813 still at issue in this litigation are
 21 invalid for obviousness in light of Kurosawa et al., and the exposure and alignment systems
 22 utilizing Cognex pattern recognition systems that it itself manufactured and sold beginning in
 23 1987. See 35 U.S.C. § 102(e) (“a patent granted on an application for patent by another filed
 24 in the United States before the invention thereof by the applicant for patent” is prior art for
 25 invalidity purposes); Torpharm, Inc. v. Ranbaxy Pharmaceuticals, Inc., 336 F.3d 1322, 1327
 26 (Fed. Cir. 2003) (“If a device was in public view or on sale before the critical date, then that
 27 device becomes a reference under section 103 against the claimed invention”) (internal
 28 quotation marks and citation omitted). Ultratech does not dispute that Kurosawa is prior art,

1 and other than the “secret art” arguments which the Court has rejected, Ultratech does not
2 contend that the Tamarack devices actually sold to IBM are not prior art.

3 The Court concludes that claims 1, 2, 4, 5, 8 and 9 are invalid as obvious in light of
4 Kurosawa and the Tamarack devices actually sold to IBM prior to the critical date.

5 First, it is undisputed that the Examiner found claims 1, 2, 4, 5, 8 and 9 were
6 anticipated by Kurosawa, except for the “arbitrary and user selectable” limitations; thus, the
7 issue for the obviousness inquiry is whether it was obvious to one skilled in the art to
8 incorporate into an exposure and alignment system a pattern recognition system that can
9 recognize any pattern selected by the user. For the reasons previously stated, the Court
10 rejects Ultratech’s new argument that the innovation of the ‘813 was the user’s selection of
11 “arbitrary” patterns without the need for further programming or a separate console.

12 Second, it is undisputed that Tamarack’s devices used a preferred embodiment of the
13 ‘813 for alignment, namely, a Cognex pattern recognition system, and that such system could
14 recognize any pattern selected by the user within the meaning of claim 1 of the ‘813. As the
15 testimony of IBM demonstrates, IBM used Cognex to recognize new fiducials that were not
16 specific to the exposure and alignment system; indeed, Ultratech’s presentation at oral
17 argument concedes that IBM changed the shape of the fiducials it used for alignment.

18 Third, the prior art itself provides “the reason, suggestion, or motivation” to lead an
19 inventor to combine a through-the-lens exposure and alignment system with a pattern
20 recognition system such as Cognex. The prior art having utilized a pattern recognition
21 system in an off-axis exposure and alignment system, and the use of a through-the-lens
22 system being well-known in the art, see Kurosawa; 9/3/04 Trusso Decl., Exh. 86 (Markle
23 Dep) at 42-43), it would have been obvious to one skilled in the art to combine a through-
24 the-lens system with Cognex; indeed, Tamarack’s September 18, 1990 response to IBM’s
25 RFQ suggested such a combination.

26 In sum, the innovation of the ‘813 was the incorporation of a pattern recognition
27 system, such a Cognex, into an exposure and alignment system. Tamarack has proved by
28 undisputed clear and convincing evidence that what the Examiner did not know was that

1 Tamarack had been incorporating Cognex into its exposure and alignment systems since
 2 1987, and, prior to Ultratech's patent application, Cognex had been marketing its products
 3 for use in exposure and alignment systems. Thus, the innovation was no innovation at all, and
 4 claims 1, 2, 4, 5, 8 and 9 are invalid as obvious.³

5 CONCLUSION

6 Based on the Court's claim construction, the same construction which the Court
 7 applied in granting Ultratech's motions for summary judgment of infringement, the Court
 8 rules as follows:

- 9 1. Tamarack's motion for summary judgment of invalidity based on anticipation
 10 by the device Tamarack offered to sell IBM in 1990 is GRANTED;
- 11 2. Tamarack's motion for summary judgment of invalidity based on anticipation
 12 by the device it eventually sold to Planar is GRANTED in part and DENIED in
 13 part. There is a genuine dispute as to whether the device was offered for sale
 14 to Planar prior to the critical date; however, Tamarack has proven as a matter
 15 of law that the device was ready for patenting prior to the critical date and met
 16 all the limitations of claim 1 of the '813;
- 17 3. Tamarack's motion for summary judgment of its obviousness affirmative
 18 defense is GRANTED;
- 19 4. Ultratech's motion for summary judgment of Tamarack's anticipation defenses
 20 is GRANTED except as to the "on sale" defense based on the 1990 offer for
 21 sale to IBM and the 1991 alleged offer for sale to Planar. Tamarack's
 22 anticipation defenses to claims 11-15 are moot in light of the Court's previous
 23 rulings;

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 26
 27 ³Tamarack met its burden of showing that all of these claims are obvious. Ultratech's
 28 opposition did not address the claims separately, and instead was based on arguments which
 apply to all claims equally. As the Court has rejected all of Ultratech's arguments, including
 those which are not specifically addressed in this Memorandum and Order, the Court grants
 Tamarack's motion with respect to all the claims on which it moved.

- 1 5. Ultratech's motion for summary judgment of Tamarack's obviousness defense
- 2 based on Kurosawa et al. and the devices it sold to IBM is DENIED; in all
- 3 other respects the motion is GRANTED; and
- 4 6. By May 19, 2005, the parties shall advise the Court in writing whether this
- 5 Memorandum and Order disposes of all the issues for trial; if so, the parties
- 6 shall submit a proposed Judgment.

7 **IT IS SO ORDERED.**

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9 Dated: May 17, 2005

10 /s/
11 CHARLES R. BREYER
12 UNITED STATES DISTRICT JUDGE
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